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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,086	12/21/2001	Norikatsu Koide	299002053700	6835
25226	7590	10/03/2003	EXAMINER	
MORRISON & FOERSTER LLP			CRANE, SARA W	
755 PAGE MILL RD			ART UNIT	
PALO ALTO, CA 94304-1018			PAPER NUMBER	
			2811	

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/032,086

Applicant(s)

KOIDE, NORIKATSU

Examiner

Sara W. Crane

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of claims 1-12 in Paper No. 6 is acknowledged.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 9, 10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thibeault et al. in view of Braun.

With respect to claim 1, figure 2 of Thibeault et al. show a semiconductor light emitting device having substrate 20, 28, on which is formed a plurality of column-shaped multilayered structures 18, 14, 16. The columns are insulated from one another by insulating layer 23, and are connected to one another by electrode 24. Nitride materials are taught for the device layers (column 6, lines 17-20). Braun teaches advantages of using silicon as a substrate for forming a light emitting device of nitride layers (column 1, lines 28-67). It would have been obvious to form the light emitting device of Thibeault et al with a silicon substrate, in order to obtain the advantages of such a substrate as taught by Braun.

With respect to claim 2, Thibeault layer 23 is insulating (column 5, line 22). With respect to claim 3, it would have been obvious to choose the column spacing consistent

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with the known competing design criteria of desired device size, desired light emitting area, and desired heat dissipation. With respect to claim 9, 26 in Thibeault figure 2 is a bonding electrode. With respect to claim 10, each of the Thibeault columns is intended to emit the same wavelength, With respect to claim 12, Thibeault figure 2 shows adjacent columns connected by electrode 24.

Claims 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 1-3, 9, 10, and 12 above, and further in view of Koide et al.

Figures 5A and 5B of Koide et al. teach growth of nitride layer columns, for light emitting devices (column 1, lines 25-26), on a silicon substrate with [111] orientation. As shown in these figures, [1-10] and [11-2] are the two directions of crystal growth associated with the [111] silicon substrate. It would have been obvious to grow columns for the device of Thibeault et al. as taught with respect to Koide figure 5, with one of the column matrix directions aligned along a [11-2] orientation, in order to obtain the advantages taught by Koide et al. With respect to claim 7, optimization of column spacing would have been obvious as noted above with respect to claim 4.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 1-3, 8, 10, and 12 above, and further in view of Yamazaki and Geng et al.

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Yamazaki figures 39A and 42B show column-shaped light emitting layers of square or rectangular cross section. Geng et al. figure 1 shows a triangular cross section. Thibeault figure 8 also shows triangular cross sections. Any of these device shapes would have been obvious in order to obtain the specific advantages noted in the references, or simply to obtain the ease in growth and etch processing associated with the known shapes.

Claims 8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 1-3, 9, 10, and 12 above, and further in view of Strite.

Transparent electrode material would have been obvious as taught at column 15, lines 62-64, of Strite, in order to allow light to pass through. Multiple emission wavelengths would have been obvious in order to obtain a multicolor array as taught in column 16, lines 40-41, of Strite.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Crane, whose telephone number is (703) 308-4894.

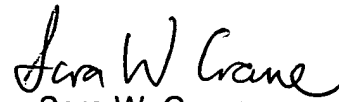
The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist, whose telephone number is (703) 308-0956.

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A handwritten signature in black ink, reading "Sara W. Crane". The signature is written in a cursive style with a large, stylized "S" and "C".

Sara W. Crane
Primary Examiner
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